

CLAIMS

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1. An apparatus for diverting digestive secretions, the apparatus comprising a tube which when deployed is positioned substantially within the small intestine, the tube comprising:

a) a proximal end which when deployed is operative to receive digestive secretions;

b) a distal end which when deployed is operative to discharge the digestive secretions into the alimentary tract; and

c) a tube wall having an inner surface and an outer surface, the tube wall inner surface defining passage extending between the proximal and distal ends, wherein when deployed the passage is operative to transfer the digestive secretions from the proximal end to the distal end and said tube wall is operative to separate the digestive secretions from food in the small intestine.

2. The apparatus of claim 1, wherein the digestive secretions comprise bile.

3. The apparatus of claim 1, wherein the digestive secretions comprise pancreatic secretions.

4. The apparatus of claim 1, further comprising a stent for engaging an anatomical lumen, the stent being connected to the proximal end of the tube.

5. The apparatus of claim 4, wherein the anatomical lumen comprises at least a portion of the hepatopancreatic ampulla.

6. The apparatus of claim 4, wherein the anatomical lumen comprises at least a portion of the bile duct.

7. The apparatus of claim 4, wherein the anatomical lumen comprises at least a portion of the pancreatic duct.

8. The apparatus of claim 4, wherein the anatomical lumen is the duodenum and an annulus is defined between the stent and the duodenum wall at the major

1 duodenal papilla, the proximal end of the tube being in fluid communication with the
2 annulus.

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4 9. The apparatus of claim 4, wherein the stent is generally Y-shaped.

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6 10. The apparatus of claim 4, wherein the stent comprises a sleeve.

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8 11. The apparatus of claim 1, wherein the tube wall is substantially impermeable.

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10 12. The apparatus of claim 1, wherein the tube wall is at least partially permeable
11 to water.

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13 13. The apparatus of claim 12, wherein the tube wall has an osmotic gradient.

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15 14. An apparatus to facilitate nutritional malabsorption by diverting bile and
16 pancreatic secretions, the apparatus comprising:

17 a) a tube comprising a proximal end, a distal end, a tube wall having an
18 inner surface and an outer surface, and a passage extending between the proximal
19 end and distal end and being defined by the inner surface of the wall;

20 b) a stent connected to the proximal end of the tube, said stent being
21 dimensioned for engaging an anatomical lumen through which digestive secretions
22 flow;

23 wherein when deployed in a patient the stent is positioned in the anatomical
24 lumen, a substantial portion of the tube is positioned in the small intestine, and the
25 bile and pancreatic secretions of the patient enter the proximal end, flow through the
26 passage and discharge from the distal end into the small intestine or large intestine
27 thereby reducing digestive contact between the bile and pancreatic secretions and
28 food in the small intestine.

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30 15. The apparatus of claim 14, wherein when deployed the proximal end of the
31 tube is positioned in or near the duodenum.

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33 16. The apparatus of claim 15, wherein the tube is a sufficient length so that when
34 deployed the distal end of the tube is positioned in the jejunum.

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2 17. The apparatus of claim 15, wherein the tube is a sufficient length so that when
3 deployed the distal end of the tube is positioned in the ileum.

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5 18. The apparatus of claim 15, wherein the tube enters the duodenum through the
6 major duodenal papilla.

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8 19. The apparatus of claim 15, wherein the anatomical lumen is selected from the
9 group consisting of the hepatopancreatic ampulla, the bile duct, and the pancreatic
10 duct.

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12 20. A method to treat obesity by diverting digestive secretions to facilitate
13 malabsorption, the method comprising the steps of:

14 a) placing a tube in the small intestine of a patient, the tube comprising a
15 proximal end, a distal end, a tube wall having an inner surface and an outer surface,
16 a passage extending between the proximal end and distal end and being defined by
17 the inner surface of the wall, and a stent connected to the proximal end;

18 b) attaching the stent in or near the major duodenal papilla such that the
19 proximal end of the tube receives bile and pancreatic secretions;

20 c) positioning the distal end of the tube in the alimentary tract of a patient
21 in a location distal to the major duodenal papilla;

22 d) preventing digestive contact between the bile and pancreatic
23 secretions and food in the small intestine by passing bile and pancreatic secretions
24 through the tube passage; and

25 e) discharging the bile and pancreatic secretions from the distal end of the
26 tube into the small intestine.

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28 21. The method of claim 20, wherein the steps of placing and attaching are
29 performed transorally.

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31 22. The method of claim 20, further comprising the step of removing the tube and
32 stent to cease malabsorption treatment.

1 23. The method of claim 20, wherein the location distal to the major duodenal
2 papilla is in the jejunum or ileum.

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4 24. The method of claim 20, wherein the steps are performed sequentially.

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6 25. The method of claim 20, further comprising the step of shortening the tube.